

Question Paper

Exam Date & Time: 18-May-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

IV Year Pharm D/ I Pharm D Post Baccalaureate
University Examination April 2023

Pharmaceutical Organic Chemistry [PCH 1.4T-S3]

Marks: 70

Duration: 180 mins.

A: Long Answer Questions

Answer all the questions.

Draw diagrams wherever necessary

- 1) Explain with mechanism the conversion of an acid chloride to an ester. (4)
 - a)
 - b) Describe the mechanism of Imine formation with a suitable example. (6)
- 2) Explain with mechanism the Friedel Crafts alkylation of benzene. (4)
 - a)
 - b) Discuss with mechanism, the Nitration of nitrobenzene. (6)
- 3) **Explain with an example, the mechanism involved in the following reactions:** (10)
 - a) Sandmeyer's reaction
 - b) diazotization and coupling reaction

B: Short Answer Questions

Answer all the questions.

- 4) Explain with an example, the various methods for the dehydration of alcohols. (5)
- 5) Discuss the stereochemistry involved in S_N1 and S_N2 reactions. (5)
- 6) Give a method of preparation, principle involved in assay and medicinal uses of paraldehyde. (5)
- 7) Explain the mechanism of Hydroboration and oxidation of alkenes. (5)
- 8) Explain the mechanism of 1,2 and 1,4 addition with suitable illustrations. (5)
- 9) **Write the structures for the following IUPAC names** (5)
 1. 2 bromo-3-methyl pentanoic acid
 2. ethyl propionate
 3. heptanamide
 4. 3-chloro, 5,5-dimethyl octane

5. pent-2-yne

C. Give Reasons for the Following

Answer all the questions.

- 10) Polar protic solvents are the worst choice for S_N2 reactions. (2)
- 11) Methylbenzene is less reactive than aniline towards electrophilic aromatic substitution. (2)
- 12) Tertiary carbocation is more stable than secondary carbocation. (2)
- 13) London forces are weaker than hydrogen bonding. (2)
- 14) The dipole moment NF_3 is less than NH_3 . (2)

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